

Application No. 10/070,052
Docket No. 3041-21
Reply to Advisory Action mailed October 6, 2004

Remarks

Rejected Claims 25 and 26 have been canceled. Minor errors in Claim 35 have been corrected. Claims 35-50 would have been allowed if the last amendment had been entered. See Corrected Amendment faxed September 29, 2004 attached hereto as Exhibit A.

Entry of this amendment and an early allowance is respectfully requested. No new matter is presented.

Respectfully submitted,

Date: November 23, 2004

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9-29-04
Lisa J. Davis
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No :10/070,052
Applicant :Brian D. Krafton et al.
Filed :June 19, 2002
Title :A GENERATOR FOR GENERATING CHLORINE DIOXIDE
UNDER VACUUM EDUCTION IN A SINGLE PASS

TC/A.U. :1742
Examiner :Donald R. Valentine

Docket No. :3041-021
Confirmation No. :9125

Honorable Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

AMENDMENT

Sir:

This is submitted in response to the Office Action mailed July 28, 2004. A response is due October 28, 2004. Applicants are responding by September 28, 2004 so that the Examiner can issue an Advisory Action by October 28, 2004.

The above-identified application has not been amended. A complete list of claims begins on page 2 of this paper.

Remarks/Arguments begin on page 5 of this paper.

This listing of claims is the same as the prior listing of claims in this application except that all the pending claims are identified as "previously presented".

Listing of Claims:

Claims 1-24 (canceled)

25. (previously presented) A disinfecting mist consisting essentially of gaseous chlorine dioxide and an inert gas selected from the group consisting of carbon dioxide, helium and nitrogen.

26. (previously presented) The mist of Claim 25, wherein the amount of gaseous chlorine dioxide is about 0.0001 to less than 10% by volume, wherein the amount of the inert gas is about 90% to about 99.9% by volume, and wherein the water vapor is about 1 to about 20% by volume.

Claims 27-34 (canceled)

35. (previously amended) An electrolytic process for preparing a chlorine dioxide mist, which process comprises the steps of:

- (a) feeding a buffered aqueous alkali metal chlorite solution into the anolyte compartment of an electrolytic generator;
- (b) feeding water into the catholyte compartment of the electrolytic generator;
- (c) supplying a motive inert gas to an eductor to create a vacuum in the anolyte compartment; and

(d) and recovering the mist, which consists essentially of gaseous chlorine dioxide, the inert gas, and water, from the anolyte compartment.

36. (previously amended) The process of Claim 35, further comprising the step of supplying a motive inert gas to an eductor to create a vacuum in the catholyte compartment.

37. (previously presented) The process of Claim 35, further comprising the step of demisting the recovered chlorine dioxide mist.

38. (previously presented) The process of Claim 35, further comprising the steps of introducing the chlorine dioxide mist near the top side of a demister tank, collecting the condensed water in the demister tank, sparging the collected water with an inert gas introduced near the bottom side of the demister tank, discharging the sparged water from the bottom of the demister tank, and recovering a mixture of chlorine dioxide gas, inert gas, and residual water vapor from the top other side of the demister tank.

39. (previously presented) The process of Claim 35, wherein the inert gas in the mist is selected from the group consisting of air, oxygen, carbon dioxide, helium, and nitrogen.

40. (previously presented) The process of Claim 35, wherein the amount of gaseous chlorine dioxide is about 0.0001 to less than 10% by volume, wherein the amount of the inert gas is about 90% to about 99.9% by volume, and wherein the water vapor is about 1 to about 20% by volume.

41. (previously presented) The process of Claim 40, wherein the inert gas is air.

42. (previously presented) The process of Claim 35, wherein the alkali metal chlorite is sodium chlorite.

43. (previously presented) The process of Claim 42, wherein the buffer is sodium carbonate/sodium bicarbonate or sodium diphosphate/sodium hydrogen phosphate.

44. (previously presented) The process of Claim 35, further comprising the step of disinfecting crops with the recovered mist.

45. (previously presented) The process of Claim 44, wherein the crops are fresh produce, grains, or tobacco.

46. (previously presented) The process of Claim 45, wherein the fresh produce is a vegetable or a fruit.

47. (previously presented) The process of Claim 35, further comprising the step of disinfecting clay with the recovered mist.

48. (previously presented) The process of Claim 35, further comprising the step of disinfecting fields, greenhouses, storage cellars, agricultural equipment, and ventilation equipment with the recovered mist.

49. (previously presented) The process of Claim 35, further comprising the step of disinfecting a porous surface with the recovered mist.

50. (previously presented) The process of Claim 49, wherein the porous surface is wood or concrete.

Remarks

The Examiner is thanked for the allowance of Claims 35-50.

A. §102(e)/§103(a) Rejection

Claims 25-26 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over U.S. 6,596,231 (Catelli et al.).

According to the Examiner, Catelli et al. show a mist with gaseous chlorine dioxide and nitrogen. The Examiner cited column 1, lines 10-23, column 2, lines 50-55, column 6, lines 20-45, and column 7, lines 40-65.

B. Applicants' Response

It is respectfully submitted that Claims 25 and 26, which are directed to a disinfecting mist consisting essentially of gaseous chlorine dioxide and selected inert gases, can not be anticipated by or obvious over an air stream carrying finely divided droplets of a liquid sterilizing agent, which stream is heated to between 25° and 80° before being blown onto the cooled surface to be sterilized where the sterilizing liquid condenses. Please note the references to "a sterilizing solution" in the specification at column 2, lines 44 and at 65, at column 4, line 40, and at column 5, lines 12, 16, and 61 as well as in Claims 1 and 2.

The discussion under the Technical Field refers to the sterilizing chemical agents used in the sterilizing solution. Hence, if chlorine dioxide were used, it would be an aqueous solution of chlorine dioxide. Note that in the practical example at column 6, lines 27-30 the sterilizing agent is peracetic acid which is used in solution at a concentration of 0.1% to 1.5%.

C. Closing

In view of the deficiencies of the reference and the above remarks, it is believed the §102(e)/§103(a) rejection is overcome. An early allowance of all the claims is respectfully requested.

Respectfully submitted,

Date:

September 28, 2004

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